IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: MARK SHUSTER, ET AL	§	Group Art Unit: 3672
Serial No.: 10/525,402	§	Examiner: WILLIAM P. NEUDER
Filed: February 23, 2005	§	Confirmation No.: 7536
For: INTERPOSED JOINT SEALING LAYER METHOD OF FORMING A WELLBORE CASING	§	Atty Docket: 14147.105120 us (formerly 25791.120.05)

RESPONSE TO NON-FINAL OFFICE ACTION MAILED JULY 23, 2007

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

In Response to the Non-Final Office Action mailed July 23, 2007, Applicants respectfully submit the following arguments in support thereof.

The **Listing of Claims** begins on page 2 of this Response.

The **Remarks** begin on page 14 of this Response.

CERTIFICATE OF SERVICE

I hereby certify that this correspondence is being filed with the U.S. Patent and Trademark Office via EFS-Web on October 22, 2007.

JESSICA GREENEY

Amendments to the Claims/Listing Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application. By present amendment, Claims 20, 28, 31-33, 56, 64, and 67-69 have been amended, Claim 37 has been withdrawn, and Claims 29 and 65 have been canceled. Claims 1-19, 21-27, 30, 34-36, 38-55, 57-63, 66, 70-72 have been presented in their original or previously presented form.

1. (Original) A method of forming a wellbore casing within a borehole that traverses a subterranean formation, comprising:

assembling a tubular liner by a process comprising:

coupling a multi-layer tubular insert assembly to a threaded portion of a first tubular member; and

coupling a threaded portion of a second tubular member to the threaded portion of the first tubular member and the multi-layer tubular insert;

positioning the tubular liner assembly within the borehole; and

radially expanding and plastically deforming the tubular liner assembly within the borehole;

wherein the multilayer tubular insert comprises:

a first tubular insert having a first modulus of elasticity; and

a second tubular insert coupled to the first tubular insert having a second modulus of elasticity;

wherein the first modulus of elasticity is different from the second modulus of elasticity.

2. (Original) The method of claim 1, wherein the first and second tubular inserts comprise metallic materials.

3. (Original) The method of claim 2, wherein the first tubular insert comprises copper; and wherein the second tubular insert comprises cadmium.

4. (Original) The method of claim 1, wherein the modulus of elasticities of the first and second tubular inserts are less than the modulus of elasticities of the first and second tubular members.

5. (Original) A method of forming a wellbore casing within a borehole that traverses a subterranean formation, comprising:

assembling a tubular liner by a process comprising:

coupling a multilayer tubular insert assembly to a threaded portion of a first tubular member; and

coupling a threaded portion of a second tubular member to the threaded portion of the first tubular member and the multilayer tubular insert;

positioning the tubular liner assembly within the borehole; and

radially expanding and plastically deforming the tubular liner assembly within the borehole;

one of the layers of the multilayer tubular insert providing a fluidic seal after radially expanding and plastically deforming the tubular liner assembly; and

another one of the layers of the multilayer insert providing a micro fluidic seal after radially expanding and plastically deforming the tubular liner assembly.

6. (Original) The method of claim 1, wherein the modulus of elasticity for at least one of the tubular inserts is less than the modulus of elasticity of the first and second tubular members.

7. (Original) The method of claim 5, wherein the modulus of elasticity for at least one of the layers of the multilayer insert is less than the modulus of elasticity of the first and second tubular members.

8. (Original) The method of claim 1, wherein the melting point for at least one of the tubular inserts prior to the radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

9. (Original) The method of claim 5, wherein the melting point for at least one of the layers of the multilayer insert prior to the radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

10. (Original) The method of claim 1, wherein at least one of the tubular inserts releases energy during the radial expansion and plastic deformation.

11. (Original) The method of claim 5, wherein at least one of the layers of the multilayer insert releases energy during the radial expansion and plastic deformation.

12. (Original) The method of claim 1, wherein assembling the tubular liner further comprises: coupling a tubular sleeve to the first and second tubular member.

13. (Original) The method of claim 12, wherein the sleeve receives the first and second tubular members.

14. (Original) The method of claim 12, wherein the sleeve is received within the first and second tubular members.

15. (Original) The method of claim 1, wherein assembling the tubular liner further comprises:

concentrating contact stresses between the first and second tubular member.

16. (Original) The method of claim 5, wherein assembling the tubular liner further comprises:

coupling a tubular sleeve to the first and second tubular member.

17. (Original) The method of claim 16, wherein the sleeve receives the first and second tubular members.

18. (Original) The method of claim 16, wherein the sleeve is received within the first and second tubular members.

19. (Original) The method of claim 5, wherein assembling the tubular liner further comprises:

concentrating contact stresses between the first and second tubular member.

20. (Currently Amended) A method of forming a wellbore casing within a borehole that traverses a subterranean formation, comprising:

assembling a tubular liner by a process comprising:

coupling a multi-layer tubular insert assembly to a threaded portion of a first tubular member; ~~and~~

coupling a threaded portion of a second tubular member to the threaded portion of the first tubular member and the multi-layer tubular insert; and

positioning a portion of the multi-layer tubular insert within a joint gap between the first tubular member and the second tubular member;

positioning the tubular liner assembly within the borehole; and

radially expanding and plastically deforming the tubular liner assembly within the borehole.

21. (Original) The method of claim 20, wherein assembling the tubular liner further comprises:

coupling a tubular sleeve to the first and second tubular member.

22. (Original) The method of claim 21, wherein the sleeve receives the first and second tubular members.

23. (Original) The method of claim 21, wherein the sleeve is received within the first and second tubular members.

24. (Original) The method of claim 20, wherein assembling the tubular liner further comprises:

concentrating contact stresses between the first and second tubular member.

25. (Original) The method of claim 20, wherein the modulus of elasticity for at least one of the layers of the multilayer insert is less than the modulus of elasticity of the first and second tubular members.

26. (Original) The method of claim 20, wherein the melting point for at least one of the layers of the multilayer insert prior to the radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

27. (Original) The method of claim 20, wherein at least one of the layers of the multilayer insert releases energy during the radial expansion and plastic deformation.

28. (Currently Amended) A method of forming a wellbore casing within a borehole that traverses a subterranean formation, comprising:

assembling a tubular liner by a process comprising:

positioning a multi-layer tubular sleeve within a first tubular member and a second tubular member;

coupling an end of the first tubular member to an end of the second tubular membera ~~multi-layer tubular insert assembly to an end of a first tubular member~~; and

coupling the multi-layer tubular sleeve to the~~an~~ end of [[a]] the second tubular member and[[to]] the end of the first tubular member ~~and the multi-layer tubular insert~~;

positioning the tubular liner assembly within the borehole; and

radially expanding and plastically deforming the tubular liner assembly within the borehole.

29. (Canceled)

30. (Original) The method of claim 28, wherein assembling the tubular liner further comprises:

concentrating contact stresses between the first and second tubular member.

31. (Currently Amended) The method of claim 28, wherein the melting point for at least one of the layers of the multilayer sleeve~~insert~~ prior to the radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

32. (Currently Amended) The method of claim 28, wherein at least one of the layers of the multilayer sleeve~~insert~~ releases energy during the radial expansion and plastic deformation.

33. (Currently Amended) The method of claim 28, wherein the multilayer tubular sleeve~~insert~~ comprises:

a first tubular insert having a first modulus of elasticity; and

a second tubular insert coupled to the first tubular insert having a second modulus of elasticity;

wherein the first modulus of elasticity is different from the second modulus of elasticity.

34. (Original) The method of claim 33, wherein the first and second tubular inserts comprise metallic materials.

35. (Original) The method of claim 34, wherein the first tubular insert comprises copper; and wherein the second tubular insert comprises cadmium.

36. (Original) The method of claim 33, wherein the modulus of elasticities of the first and second tubular inserts are less than the modulus of elasticities of the first and second tubular members.

37. (Withdrawn) A method of forming a wellbore casing within a borehole that traverses a subterranean formation, comprising:

assembling a tubular liner by a process comprising:

coupling an end of a first tubular member to an end of a second tubular member, and

coupling a tubular sleeve to the ends of the first and second tubular members;

positioning the tubular liner assembly within the borehole; and

radially expanding and plastically deforming the tubular liner assembly within the borehole;

wherein coupling the tubular sleeve to the ends of the first and second tubular members comprises applying magnetic energy to the tubular sleeve.

38. (Original) A tubular liner apparatus, comprising:

a first tubular member comprising a threaded portion;

a multi-layer tubular insert coupled to the threaded portion of the first tubular member; and

a second tubular member comprising a threaded portion coupled to the threaded portion of the first tubular member and the multi-layer tubular insert;

wherein the multilayer tubular insert comprises:

a first tubular insert having a first modulus of elasticity; and

a second tubular insert coupled to the first tubular insert having a second modulus of elasticity;

wherein the first modulus of elasticity is different from the second modulus of elasticity.

39. (Original) The apparatus of claim 38, wherein the first and second tubular inserts comprise metallic materials.

40. (Original) The apparatus of claim 39, wherein the first tubular insert comprises copper; and wherein the second tubular insert comprises cadmium.

41. (Original) The apparatus of claim 38, wherein the modulus of elasticities of the first and second tubular inserts are less than the modulus of elasticities of the first and second tubular members.

42. (Original) The apparatus of claim 38, wherein the melting point for at least one of the tubular inserts prior to a radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

43. (Original) The apparatus of claim 38, wherein at least one of the tubular inserts releases energy during a radial expansion and plastic deformation.

44. (Original) The apparatus of claim 38, wherein the apparatus further comprises: a tubular sleeve coupled to the first and second tubular member.

45. (Original) The apparatus of claim 44, wherein the sleeve receives the first and second tubular members.

46. (Original) The apparatus of claim 44, wherein the sleeve is received within the first and second tubular members.

47. (Original) The apparatus of claim 38, wherein the apparatus further comprises:

means for concentrating contact stresses between the first and second tubular members.

48. (Original) A tubular liner apparatus, comprising:

a first tubular member comprising a threaded portion;

a multi-layer tubular insert coupled to the threaded portion of the first tubular member; and

a second tubular member comprising a threaded portion coupled to the threaded portion of the first tubular member and the multi-layer tubular insert;

wherein one of the layers of the multilayer tubular insert provide a fluidic seal; and

wherein another one of the layers of the multilayer insert provide a micro fluidic seal.

49. (Original) The apparatus of claim 48, wherein the modulus of elasticity for at least one of the layers of the multilayer insert is less than the modulus of elasticity of the first and second tubular members.

50. (Original) The apparatus of claim 48, wherein the melting point for at least one of the layers of the multilayer insert prior to a radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

51. (Original) The apparatus of claim 48, wherein at least one of the layers of the multilayer insert releases energy during a radial expansion and plastic deformation.

52. (Original) The apparatus of claim 48, further comprising:

a tubular sleeve coupled to the first and second tubular member.

53. (Original) The apparatus of claim 52, wherein the sleeve receives the first and second tubular members.

54. (Original) The apparatus of claim 52, wherein the sleeve is received within the first and second tubular members.

55. (Original) The apparatus of claim 48, further comprising: means for concentrating contact stresses between the first and second tubular member.

56. (Currently Amended) A tubular liner apparatus, comprising:

a first tubular member comprising a threaded portion;

a multi-layer tubular insert coupled to the threaded portion of the first tubular member and a portion of the second tubular member, a portion of the multi-layer insert coupled between the first tubular member and the second tubular member within a joint gap; and

a second tubular member comprising a threaded portion coupled to the threaded portion of the first tubular member and the multi-layer tubular insert.

57. (Original) The apparatus of claim 56, wherein the apparatus further comprises:

a tubular sleeve coupled to the first and second tubular member.

58. (Original) The apparatus of claim 57, wherein the sleeve receives the first and second tubular members.

59. (Original) The apparatus of claim 57, wherein the sleeve is received within the first and second tubular members.

60. (Original) The apparatus of claim 56, further comprising:

means for concentrating contact stresses between the first and second tubular member.

61. (Original) The apparatus of claim 56, wherein the modulus of elasticity for at least one of the layers of the multilayer insert is less than the modulus of elasticity of the first and second tubular members.

62. (Original) The apparatus of claim 56, wherein the melting point for at least one of the layers of the multilayer insert prior to a radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

63. (Original) The apparatus of claim 56, wherein at least one of the layers of the multilayer insert releases energy during a radial expansion and plastic deformation.

64. (Currently Amended) A tubular liner apparatus, comprising:

a first tubular member;

a multi-layer tubular sleeve~~insert~~ coupled to the first tubular member; and

a second tubular member coupled to the first tubular member and the multi-layer tubular sleeve~~insert~~, wherein the multi-layer tubular sleeve is received within the first and second tubular members.

65. (Canceled)

66. (Original) The apparatus of claim 64, further comprising:

means for concentrating contact stresses between the first and second tubular member.

67. (Currently Amended) The apparatus of claim 64, wherein the melting point for at least one of the layers of the multilayer sleeve~~insert~~ prior to a radial expansion and plastic deformation is less than the melting point after the radial expansion and plastic deformation.

68. (Currently Amended) The apparatus of claim 64, wherein at least one of the layers of the multilayer sleeve~~insert~~ releases energy during a radial expansion and plastic deformation.

69. (Currently Amended) The apparatus of claim 64, wherein the multilayer tubular sleeve~~insert~~ comprises:

a first tubular insert having a first modulus of elasticity; and

a second tubular insert coupled to the first tubular insert having a second modulus of elasticity;

wherein the first modulus of elasticity is different from the second modulus of elasticity.

70. (Original) The apparatus of claim 69, wherein the first and second tubular inserts comprise metallic materials.

71. (Original) The apparatus of claim 70, wherein the first tubular insert comprises copper; and wherein the second tubular insert comprises cadmium.

72. (Original) The apparatus of claim 69, wherein the modulus of elasticities of the first and second tubular inserts are less than the modulus of elasticities of the first and second tubular members.

REMARKS

The Applicants and the undersigned thank Examiner Neuder for his careful review of this application. Consideration of the present application in respectfully requested in light of the above amendments to the claims and in view of the following remarks. Claims 20-22, 24, 25, 28-30, 56-58, 60, and 64-66 have been rejected. Claims 23, 26, 27, 31-36, 59, 61-63, and 67-72 have been objected to. The Applicants have amended claims 20, 28, 31-33, 56, 64, and 67-69. Applicants have withdrawn claim 37. Claims 29 and 65 have been canceled. Upon entry of this amendment, Claims 1-28, 30-36, 38-64, and 66-72 are pending in the subject application with claims 1-19 and 38-55 having been allowed. The independent claims for this application are Claims 1, 5, 20, 28, 38, 48, 56, and 64.

RESTRICTION REQUIREMENT

Claims 1-72 were subject to a restriction requirement imposed by the Examiner on during a telephone conversation with the undersigned on July 18, 2007. The Examiner has grouped Claims 1-72 into two invention as follows:

Groups	Relevant Figures
Group I	Claims 1-36 and 38-72 drawn to a casing and method of forming a casing using a multilayer insert
Group II	Claim 37 directed to a method of forming a casing using a sleeve and a magnetic energy device

ELECTION

The undersigned provisionally elected Group I during the telephonic conversation of July 18. Applicants hereby affirm the election of Group I, without traverse, which encompasses Claims 1-36 and 38-72, to be examined in the present application. Applicants reserve the right to file a divisional application directed to the unelected group at a later date if they so desire.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102(e)

The Examiner rejected claims 20-22, 24, 25, 28-30, 56-58, 60, and 64-66 under 35 U.S.C. § 102(e) as being anticipated by U.S. Published Patent Application No. US 2005/0199385 to Metcalf, ("*Metcalf*"). The Applicants respectfully offer the following remarks to traverse these pending rejections.

A. The Inventions of Independent Claims 20 and 56, as Amended, are Distinguishable from *Metcalf*

The rejection of independent claims 20 and 56 is respectfully traversed. It is respectfully submitted that *Metcalf* fails to teach or suggest all of the recitations enumerated in independent claims 20 and 56, as amended. Specifically, *Metcalf* does not teach or suggest a method for positioning a portion of the multi-layer insert within a joint gap between the first tubular member and the second tubular member or an apparatus comprising a multi-layer tubular insert wherein a portion of the insert is coupled between the first tubular member and the second tubular member within a joint gap as set forth by amended Claims 20 and 56.

Metcalf teaches a tubing connection arrangement that includes two expandable tubing sections. "Each expandable tubing section includes a filter screen sandwiched between an inner expandable tubing and an outer expandable tubing." *Metcalf*, para. 0008:3-5. *Metcalf* further teaches that the "filter screen of one tubing section overlaps the filter screen of the other tubing section." *Metcalf*, para. 0008:5-7. "Each filter screen [is] ... individually mounted to the respective inner expandable tubing by axially parallel connectors." *Metcalf*, para. 0012:1-4. As shown in Figure 2 of *Metcalf*, it teaches that the overlapping filter plates extend axially along each of the inner expandable tubing sections. However, *Metcalf* does not teach or suggest that any portion of the filter screens be positioned within the joint gap between the two inner expandable tubing sections. On the contrary, *Metcalf* teaches that the overlapping filter plates are spaced apart or the ends of the inner tubing sections are upset to "allow the connection [of the inner tubing sections] to be made up without snagging or galling of the opposing filter plates." *Metcalf*, para. 0025:1-4; see also para. 0013:6-14. Thus, *Metcalf* does not teach or suggest a method for positioning a portion of the multi-layer insert within a joint gap between the first tubular member and the second tubular member or an apparatus comprising a multi-layer tubular insert wherein a portion of the insert is coupled between the first tubular member and the

second tubular member within a joint gap. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of independent claims 20 and 56.

B. The Inventions of Independent Claims 28 and 64, as Amended, are Distinguishable from *Metcalf*

The rejection of independent claims 28 and 64 is respectfully traversed. It is submitted that *Metcalf* fails to teach or suggest all of the recitations enumerated in independent claims 28 and 64, as amended. Specifically, *Metcalf* does not teach or suggest positioning a multi-layer tubular sleeve within a first tubular member and a second tubular member that are coupled to one another.

Metcalf teaches filter plates positioned between "inner expandable support tubing and outer expandable protective tubing." *Metcalf*, para. 0023:3-6. "The sections of inner ... tubing are formed with co-operating pin and box connections to allow the tubing sections to be made up by relative rotation." *Metcalf*, para. 0023:8-11. *Metcalf* further teaches that "the outer tubing on the pin ... is similarly overlapped by the end of the outer tubing on the box." *Metcalf*, para. 0025:6-9. The examiner asserts that the "[i]nsert 18 is considered multilayered as seen within the circle the inserts overlap forming a multilayer" in Figure 2. Office Action, p. 3. Therefore, the multilayered insert of *Metcalf* is along the outer perimeter of the tubular members that are coupled to one another and is not positioned within the first and second tubular members as set forth in claims 28 and 64. Furthermore, the multilayered insert of *Metcalf* is not a sleeve, but instead is two independent pieces that are independently coupled and happen to overlap one another. Therefore, *Metcalf* does not teach or suggest positioning a multi-layer tubular sleeve within a first tubular member and a second tubular member that are coupled to one another. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 28 and 64.

Dependent Claims 21-22, 24, 25, 30, 57, 58, 60, and 66

The Applicants respectfully submit that the above-identified dependent claims are allowable because the independent claims from which they depend, Claims 20, 28, 56, and 64 are patentable over the cited references. The Applicants also respectfully traverse the Examiner's assertions about these claims and submit that the recitations of these dependent claims are of patentable significance. The Applicants respectfully request that

the Examiner reconsider and withdraw the pending rejection of Claims 21-22, 24, 25, 30, 57, 58, 60, and 66.

CONCLUSION

The foregoing is submitted as a full and complete response to the Office Action mailed on July 23, 2007. Applicants have made a diligent effort to advance the prosecution of the application by submitting claim amendments and arguments in support of the patentability of claims 20-28, 30-36, 56-64, and 66-72. Applicants have not acquiesced to any rejection and reserve the right to address the patentability of any additional claim features in the future.

As the three-month statutory period for reply expires on October 23, 2007, this response is therefore considered timely filed and no fees are believed to be due. However, should the Commissioner deem any fees as being due, including any fees for any extensions of time, the Commissioner is hereby authorized to debit said fees from, or to credit any overpayments to, USPTO Deposit Account Number 50-3786, Reference No. 14147.105120.

The Examiner is invited to contact the undersigned via telephone at the number listed below if a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

/Todd Mattingly/

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